

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for heating a battery in a hybrid electric vehicle, the hybrid electric vehicle having an engine, a battery, ~~a motor-generator powered by the engine or the battery and adapted to drive a vehicle wheel~~, and a control module for monitoring and controlling the hybrid electric vehicle, the method comprising the steps of:

determining if whether a temperature of the battery is below a predetermined value;

determining whether a triggering event has occurred; and

reversing polarity of a battery current if when the temperature of the battery is below the predetermined value and [[a]] the triggering event has occurred, wherein reversing polarity of the battery occurs at a first slew rate for a tip-in event and a second slew rate for a terminal voltage event.

2. (original) The method of claim 1 wherein the step of determining whether a triggering event has occurred includes determining whether a tip-in event, a tip-out event, or a terminal voltage event has occurred.

3. (original) The method of claim 2 wherein determining whether a tip-in event has occurred comprises measuring a battery voltage and not reversing the polarity of the battery current if the battery voltage is low.

4. (original) The method of claim 2 wherein determining whether a tip-out event has occurred comprises measuring a battery voltage and not reversing the polarity of the battery current if the battery voltage is high.

5. (currently amended) The method of claim ~~[[1]]~~ wherein reversing the polarity of the battery occurs at a first slew rate for the tip-in event and the tip-out event, and a second slew rate for the terminal voltage event.

6. (original) The method of claim 5 wherein the first slew rate is faster than the second slew rate.

7. (original) The method of claim 1 wherein the step of determining the temperature of the battery comprises comparing the predetermined value to a measured value from a battery temperature sensor.

8. (original) The method of claim 2 wherein determining whether a tip-in event has occurred is based on a change in position of a gas pedal position sensor.

9. (original) The method of claim 2 wherein determining whether a tip-out event has occurred is based on the change in position of a brake pedal position sensor or the gas pedal position sensor.

10. (original) The method of claim 2 wherein the step of determining whether a terminal voltage event has occurred comprises comparing a terminal voltage value to a limit value that is indicative of the polarization resistance voltage of the battery.

11. (original) A method for heating a battery in a hybrid electric vehicle, the hybrid electric vehicle having an engine, a battery, a motor-generator powered by the engine or the battery and adapted to drive a vehicle wheel, and a control module for monitoring and controlling the hybrid electric vehicle, the method comprising the steps of:

determining if a temperature of the battery is below a predetermined value;
determining whether a previous polarity reversal has been completed;
determining whether a tip-in event has occurred;
determining whether a tip-out event has occurred;

determining whether a terminal voltage event has occurred; and
reversing polarity of a battery current if the temperature of the battery is below the predetermined value and the previous polarity reversal has been completed and a tip-in event, tip-out event, or a terminal voltage event has occurred.

12. (original) The method of claim 11 wherein reversing the polarity of the battery current occurs at a first slew rate for the tip-in event and the tip-out event, and a second slew rate for the terminal voltage event.

13. (original) The method of claim 11 wherein the step of determining whether a previous polarity reversal has been completed further comprises determining whether the battery is charging or discharging after determining whether the previous polarity reversal has been completed.

14. (currently amended) The method of claim 11 ~~12~~ wherein the step of determining whether a terminal voltage event has occurred further comprises comparing a measured terminal voltage value to a limit value that is indicative of the polarization resistance voltage of the battery.

15. (original) The method of claim 14 wherein the step of determining whether a terminal voltage event has occurred further comprises determining whether the terminal voltage value is greater than a first limit value if the battery is discharging.

16. (original) The method of claim 14 wherein the step of determining whether a terminal voltage event has occurred further comprises determining whether the terminal voltage value is less than a second limit value if the battery is charging.

17. (original) The method of claim 11 wherein the step of reversing the polarity of the battery further comprises calculating a power target level and reversing the polarity of the battery current to the power target level.

18. (original) The method of claim 11 wherein the step of determining whether a tip-in event has occurred is based on a change in position of a gas pedal position sensor.

19. (currently amended) The method of claim 11 wherein the step of determining whether a tip-out event has occurred is based on the change in position of a brake pedal position sensor or ~~the a~~ a gas pedal position sensor.

20. (original) A method for heating a battery in a hybrid electric vehicle, the hybrid electric vehicle having an engine, a battery, a motor-generator powered by the engine or the battery and adapted to drive a vehicle wheel, and a control module for monitoring and controlling the hybrid electric vehicle, the method comprising the steps of:

determining if a temperature of the battery is below a predetermined value;

determining whether a previous polarity reversal has been completed and preventing a subsequent polarity reversal from being implemented until the previous polarity reversal has been completed;

determining whether the battery is charging or discharging;

determining whether a terminal voltage event has occurred and reversing polarity of a battery current at a first slew rate if the terminal voltage event has occurred;

determining whether a tip-in event has occurred and reversing the polarity of the battery current at a second slew rate if the tip-in event has occurred; and

determining whether a tip-out event has occurred and reversing the polarity of the battery current at a second slew rate if the tip-out event has occurred.